What is claimed is

1. A method for eliciting a bronchodilator effect while avoiding the concomitant liability of hypersensitivity which comprises administering to a human in need of bronchodilation an amount of (R,R)-formoterol, or a pharmaceutically acceptable salt thereof, sufficient to alleviate bronchospasms but insufficient to cause hypersensitivity, said (R,R)-formoterol containing at least 90% by weight of (R,R)-formoterol and less than 10% by weight of (S,S)-formoterol.

2. The method of claim 1 wherein (R,R) formoterol is administered by subcutaneous injection, intravenous infusion, inhalation, transdermal delivery or oral administration.

3. The method according to claim 2 wherein the amount administered by inhalation is about 1 μg to about 100 μg per day.

4. The method according to claim 2 wherein the amount administered orally is about 0.1 to about 1 mg per day.

5. The method according to claim 1 wherein (R,R) formoterol or pharmaceutically acceptable salt thereof is administered together with a pharmaceutically acceptable carrier.

6. A method according to claim 2 wherein (R,R) formoterol fumarate dehydrate is administered.

7. A method according to claim 3 wherein said amount is administered in divided doses from two to four times a day.

8. A bronchodilator composition in the form of a tablet, capsule, transdermal patch or aerosol which comprises a pharmaceutically acceptable carrier suitable for a tablet, capsule, patch or aerosol and an amount of (R,R)-formoterol, or a pharmaceutically acceptable salt thereof, sufficient to alleviate bronchospasms but insufficient to cause hypersensitivity, said (R,R)-formoterol containing at least 90% by weight of (R,R)-formoterol and less than 10% by weight of (S,S)-formoterol.

9. A composition according to claim 8 adapted for administration by inhalation wherein the amount of (R,R) formoterol is about 6 μg to about 25 μg.

10. A composition according to claim 8 which comprises (R,R) formoterol fumarate dihydrate.

11. A composition according to claim 8 adapted for oral administration.

12. A composition according to claim 11 wherein the amount of formoterol in an oral dosage form is from about 0.1 mg to about 1 mg.

13. A composition according to claim 8 adapted for transdermal administration.

14. A method for eliciting a bronchodilator effect that is of longer duration than the bronchodilator effect of a comparable dose of racemic formoterol, which comprises administering to a human in need of bronchodilation an amount of (R,R)-formoterol, or a pharmaceutically acceptable salt thereof, sufficient to alleviate bronchospasms, said (R,R)-formoterol producing a longer bronchodilator effect than a comparable dose of racemic formoterol, and said (R,R)-formoterol containing at least 90% by weight of (R,R)-formoterol and less than 10% by weight of (S,S)-formoterol.